A Ubiquitous Anachronism: Horses in the First World War

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The Great War

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The Great War (1914-1918) is known as the first modern war; a war that introduced many great technologies to the fight. Motorized vehicles, tanks, machine guns, and airplanes, to name a few, saw their first combat action during this conflict. When reflecting upon this war, it is right and natural to imagine a scene replete with Industrial Age might. Another ubiquitous and highly valuable asset, however, was the horse. The horse - warrior and beast of burden for millennia - played a role arguably more critical to the war effort than any one of the new technological marvels. All participants in this Great War used the horse every single day to move supplies, ammunition, armament, and victuals to the front, and casualties to the rear. Even cavalry units saw some measure of combat action in this, the last war with significant use of this combat arm. Almost an anachronism, the horse filled a gap between technologies and traversed landscape only this austere beast could conquer. The lack of horse meant defeat.

This discussion is by no means limited to the four-legged animal we call the horse. A number of other quadrupedal beasts of burden were integral to the war effort as well. On the western front, the armies used mostly horses and mules, but on other fronts and in other theatres, different animals such as donkeys, oxen, and camels carried the war effort on their backs. Terrain and climate dictated which animal was best suited for the task at hand and no one species should receive more credit than the other. The focus herein, actually, is upon the seemingly anachronistic practice of horses and their cohorts providing animal-powered mobility during an Industrial Age conflict concurrently propelled by technology.

To be sure, mechanical modes of transportation supported the Great War from the very start. Railways, as much as any new technology, enabled this war. Austria-

Hungary's rail system, for instance, moved over 8-million men and nearly one-half million horses during 1915.[1] Two years later, in 1917, these same rails moved over 2.75-million men and over 250,000 million horses.[2] The rail made it possible to deploy forces in unprecedented numbers. Notice, however, the large number of horses transported. A ratio exceeding one horse for every twenty men remained consistent throughout the war, on both of the major European fronts.

For every instance in which we consider rail traffic, we must also consider the horse. The railroad limited itself with its own great size and inflexibility, and though it moved huge masses of matériel and men over great distances, the depots and transfer stations typically existed far from the fight. The dangerous conditions of the front required that these assets be located well out harm's way. Furthermore, the war-torn terrain resulting from massive artillery barrages made it impossible for any contemporary mechanical means to transit between depot and warrior. Only the horse and his cohorts could negotiate this extreme topography.

Smaller modes of motorized transport existed, to be sure, and cars and trucks were relatively plentiful. Yet, it was not possible for them to negotiate the mud-filled craters and other extremes of the front-line. Technology had a long ways to go before that could happen. Yet, notable feats of motorized transport occurred that are worthy of mention. The 'Taxis of the Marne' became quite famous, for example. As the German Army rapidly approached Paris in early September 1914, the French military commandeered over fifteen hundred Parisian taxis in which they transported several

[1] Josef Brauner, et al., ed., *Austria-Hungary's Last War, 1914-1918, Volume 4 (1916), The Events of January through July*, trans. Stan Hanna (Vienna: Publisher of Military Science Releases, 1933), 131.

[2] Eduard Czegka, et al., ed., *Austria-Hungary's Last War, 1914-1918, Volume 7 (1918)*, trans. Stan Hanna (Vienna: Publisher of Military Science Releases, 1938), 107.

thousand French soldiers to the front-line. The French did in fact stop the German army, and considered the achievement nothing short of miraculous. The degree to which this taxi cab effort actually affected the outcome, however, remains highly debatable.[3] Nonetheless, associating a newer technology with this miracle was perhaps quite natural.

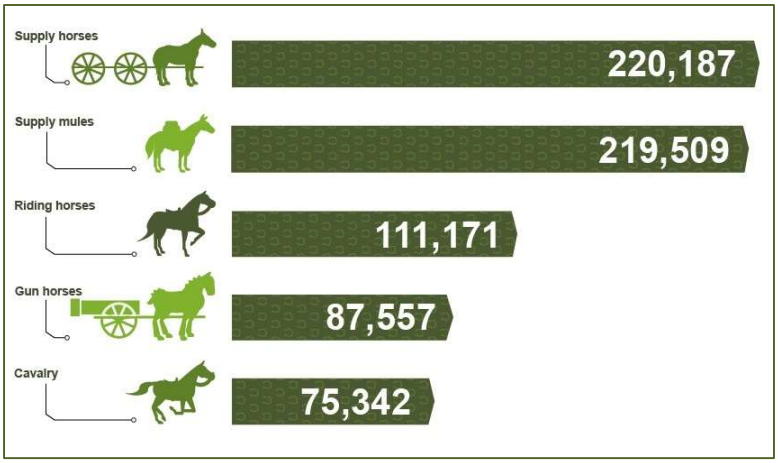
Notwithstanding the popularity of a gas-powered automobile, the reality on the ground proved that it had its limitations. A survey of an American contemporary professional journal, *The Field Artillery Journal*, illustrates both extremes. This journal addresses artillery transport in nearly every quarterly issue released during the war. The desire for a mechanical replacement for the horse was strong, but seldom did the authors see it becoming a reality any time soon. They recognized that motorized transport was prone to mechanical break-down and that it easily became mired in soft wet ground. However much they may have wished for it, even the experts noted that no motorized vehicle in existence could reliably traverse the same ground that the horse could and that "It (would) probably be many years before horses are entirely superseded by the motor means of transportation."[4]

There existed, then, a gap between existing transportation technologies and the reality of the battlefield. To be more precise, modern transportation technologies actually *created* a gap that only the horse could fill. Technology deployed more men and armament than ever before, which meant that hoofed transport must deploy in greater numbers than ever before as well. These armies required food. The artillery required towing. Ammunitions of all calibers required hauling, in this, the most profligate conflict

[3] Holger H. Herwig, *The Marne, 1914: The Opening of World War I and the Battle That Changed the World* (New York: Random House Publishing Group, 2011), 262.

[4] Augustine McIntyre, "The Horse Supply of Austria-Hungary," *The Field Artillery Journal* V, no. 4 (October-December 1915): 696.

to date in terms of ammunition expenditure. The armies of the day, then, became more dependent on the horse, not less. Figure 1, below, provides a visual representation of the number of horses and mules in the British Army's service at the end of the war.



British Army in November 1918: Horses and Mules [5]

This graphic does not include all possible uses of the horse, nor does it include donkeys, camels, and oxen. It does, however, provide fair comparison of the major utilization types. Of the 713,766 animals represented, it is notable that a total of 439,696 (61.6%) of the horses and mules were used for supply purposes. Indeed, the horse anchored the supply apparatus supporting millions of soldiers. On the western front, mechanized transport typically moved supplies to a point about five miles from the front line.[6] From this point forward, however, only hooves and feet could make the trek. The horse moved every single item required to survive and fight - food, water, clothing, firewood, trench making tools, shoring, small arms ammunition – everything.

Long lines of horse and wagon stretched along every line-of-communication in every theatre, sometimes for hundreds of miles. Tom Bromley, a British soldier,

[5] BBC iWonder On-Line, "Who Were the Real War Horses of WW1?" http://www.bbc.co.uk/guides/zp6bjxs#zg3wpv4 (accessed November 20, 2017).

[6] John Singleton, "Britain's Military Use of Horses 1914-1918," *Past & Present* 139 (May 1993): 190.

described the scene without exaggeration, as "horse transport galore!"[7] General Erich Ludendorff, German Quartermaster General, was more elaborate in his admiration for the animal. In describing a seemingly unending line of marching men and horse through the deep snows of an eastern front winter. He later wrote, "The feats performed by man and horse… (were) beyond description, and forever redound to their honour."[8]

The eastern front, being more fluid and mobile than that of the west, demanded mobility from its supply animals as well. An ephemeral battle-front, coupled with the enormous effort required to relocate railheads and depots, meant longer horse-driven lines-of-communication. The fighting in less industrial theatres required more of the same. In fact, the use of donkeys in the Balkans, or camels in Mesopotamia, proceeded no differently than it had for many centuries before. These supply animals, in every theatre, were militarily indispensable.

Above all technologies, people likely remember the Great War as a war of heavy artillery. This was especially true on the western front where static conditions permitted the installation of large guns by the tens-of-thousands. Moving these guns into place, and then loading them with, quite literally, millions of rounds of large-caliber artillery shells fell mainly upon the muscles of horses and mules. Officially, the first duty of an artillery officer is to be able to hit a designated target. In the Great War, the first duty was actually getting the gun into a position from which to fire upon the target.[9] This took dozens of horses and often dozens of men, for one gun. French soldier, Louis Barthas, marveled at

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[7] "Podcast 40: Logistics of War," Imperial War Museum, Voices of the First World War. Audio file, 13:41, http://www.iwm.org.uk/history/podcasts/voices-of-the-first-world-war/podcast-40-logistics-of-war (accessed October 14, 2017).

[8] Erich Ludendorff, *My War Memories: 1914-1918, Volume I* (London: Hutchinson & Co., *n.d.*), 124.

[9] Francis W. Honeycutt, "Draft in Batteries of Heavy Field Artillery," *The Field Artillery Journal* V, no. 3 (July-September 1915): 594.

the effort required to position large guns, later writing, "We watched the installation of large-caliber artillery batteries at the top of Mont-Saint-Eloi. This was no mean feat, hauling these steel monsters up rutted pathways where horses, men, and cannon were slipping, sliding, and getting stuck at each step forward."[10] A British driver, T. Berry,

A horse-drawn 60-pounder field gun moving up to the forward area along the Albert - Fricourt road, September 1916 [11]

described efforts at extricating a large gun stuck deeply in some mud, "We tried a dozen horses at first… But a dozen was not quite sufficient, so finally I think we done it with 22 horses. So of course that took us an all day's job…"[12]

Hardships abound during wartime, but the remarkable thing here is that these are only two out of an abundance of eye-witness accounts describing incredible feats achievable by only man and beast. Technology may have produced weapons of historic weight and destruction, but it had still not produced anything capable of getting the guns into complicated firing positions, or removing them from even worse ones.

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[10]Louis Barthas, *Poilu: The World War I Notebooks of Corporal Louis Barthas, Barrelmaker, 1914-1918*, trans. Robert Cowley (New Haven and London: Yale University Press, 2014), 160.

[11] Imperial War Museums, "A Horse-Drawn 60-pounder Field Gun Moving up to the Forward Area along the Albert - Fricourt road, September 1916," Picture Q 1461, http://www.iwm.org.uk/collections/item/object/205072753 (accessed November 25, 2017).

[12] "Podcast 32: Gunners," Imperial War Museum, Voices of the First World War. Audio file, 12:47, http://www.iwm.org.uk/history/podcasts/voices-of-the-first-world-war/podcast-32-gunners (accessed October 14, 2017).

Moving wartime matériel to a fighting position, be it heavy artillery or a warm meal, is essential. Perhaps less exalted, but certainly just as important, is the movement of casualties away from the fight. Motorized ambulances could not approach the battle zone for the same reasons that supply trucks could not. Therefore, a reversal of the whole logistical process took place in order to remove the sick and injured, dovetailing modern and archaic modes of casualty transport, to good effect. An anonymous nurse described the entire process of casualty evacuation, from the fighting front to definitive care in the rear as, "wounded… were taken by stretcher-bearers to the… dressing station, and thence by horse ambulance to the Field Ambulance, and then by motor ambulance to where we picked them up." [13]

Sometimes horses even served as the first echelon stretcher bearer right up at the front line. During the 1916 Battle of the Somme, for instance, the fall rains had so severely soaked the fields of Flers that it was impossible for a team of men to carry a wounded soldier without bogging knee-deep into the mud. Instead, horse drawn sledges pulled the wounded across the muck to horse-drawn ambulances positioned on more suitable terrain.[14]

Similarly, camel drawn sledges in Macedonia and Mesopotamia moved casualties across sands too soft to support motorized vehicles. These animals transported their patients all the way from the point of injury to the nearest field hospital, often many miles away. In the Balkans, donkeys typically moved casualties. Medics fitted these small

[13] Anonymous, *Diary of a Nursing Sister on the Western Front, 1914-1915* (Edinburgh and London: William Blackwood and Sons, 1915), Chapter VIII, NP.

[14] Singleton, 191.

robust animals with two litters, one on each side, and guided them through the mountains to safety.[15]

Long Line of Horse-Drawn Ambulance Depicted on Contemporary Postcard [16]

Military medical experts have long recognized that the more quickly that wounded troops receive definitive medical care, the better their chance for survival.[17] Horses should receive much of the credit, then, for saving many lives. But horses were not just involved in transporting casualties. The medical teams and all their equipment required transportation as well. For this, the medical services depended upon horse as much as they did motor, and medical officers often travelled on horseback too.

Officers of all types used riding horses, in fact, and great numbers of riding horses were present in all theatres. By way of illustration, it was commonplace for Austro-Hungarian commanders to ride alongside columns of marching soldiers. Moreover, they

[15] Austin Lescaboura, and J. M. Bird, eds. *Harper's Pictorial Library of the World War, Volume VIII: Inventive and Industrial Triumphs, Science and Industry in the Struggle* (New York: Harper & Brothers Publishers, 1920), 377.

[16] Picture Postcards from the Great War, "The Royal Army Medical Corps on WW1 Postcards," https://www.worldwar1postcards.com/war-wounded-and-the-ramc.php (accessed November 21, 2017).

[17] Anonymous, *With the American Ambulance Service in France: Personal Letters of a Driver at the Front* (Boston: Houghton Mifflin Company, 1916), x.

frequently directed active combat action right from the saddle.[18] Just as their progenitors did in the days before rapid-fire, rifled machine guns, these commanders utilized the mobility and the high observation angle that only a horse could provide. They no doubt presented a fine target as well. But there are plenty of examples that demonstrate the slowness with which Great War leaders adapted to the hazards of modern weaponry. Old practices are difficult to cast off, perhaps those steeped in tradition persist most stubbornly.

These days, it is hard to imagine an officer riding up to a formation of troops on horseback, but it was commonplace a century ago. Riding horses still provided a significant means of mounted transportation. In fact, official British records indicate that during August 1917, a peak month for horse usage, fully one-third of the horses on the western front were riding horses. This would put the total riding horses at over 122,000 in France alone.[19] Motorized vehicles were fast, to be sure, but the constraints of terrain meant that only a horse could do this job reliably.

Horses accomplished a number of other miscellaneous uses, sometimes not even directly related to the war effort. In May 1917, Mildred Aldrich, an American living near the western front, convinced a French cavalry commander to allow her village farmers to use some of his cavalry horses so that they could catch up on spring planting.[20] No good farm horses remained; conscription and industry actively consumed most of them, right

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[18] Eduard Czegka, et al., ed., *Austria-Hungary's Last War, 1914-1918, Volume 1 (1914), Outbreak of War to the Outcome of the Battle of Limanowa-Lapanow*, trans. Stan Hanna (Vienna: Publisher of Military Science Releases, 1930), 362.

[19] The War Office, *Statistics of the Military Effort of the British Empire during the Great War, 1914-1920* (London: His Majesty's Stationery Office, 1922), 400.

[20] Mildred Aldrich, *The Peak of the Load: The Waiting Months on the Hilltop from the Entrance of the Stars and Stripes to the Second Victory on the Marne* (Boston: Small, Maynard and Company, 1917), 13.

alongside all young men and women. As another example, in the autumn of 1918, two hundred British supply horses helped local farmers harvest recently liberated French cropland.[21] More instances of this type of civil assistance surely took place, for the light draft horse involved in wartime logistics was bred to pull the plow.

In the early twentieth century, horses and mules still pulled plows through the European soil, and they still hauled most of the goods and wares that kept the economies flowing and the families fed. One of the most valiant uses of the noble steed, however, rode towards obsolescence. The cavalry in the Great War appeared to be outmoded from the very start. Rapid-fire machine guns inflicted such damage upon mounted troops that it appeared the cavalry would never be able to mount a successful offensive. Additionally, the pervasive trench systems, millions of shell craters, and hundreds of miles of barbed wire presented obstacles that thwarted cavalry offensives time and again. This convinced many observers that the cavalry no longer existed as a lethal arm. It was yet another irregularity in warfare created by technology. As indicated, the horse filled a gap in the logistical realm that technology left unfilled. In the case of cavalry, however, technology created an untenable gap. Untenable due to lethality, unfilled because no technological asset in existence was as fast or maneuverable as the horse.[22]

Curiously, pre-war cavalry leaders resisted the doctrinal changes needed to offset the lethality of rapid-fire machine guns and artillery. This is a recurring theme, for although commanders readily embraced the technologies themselves, they seemingly

[21] Graham Winton, *Theirs Not To Reason Why: Horsing the British Army 1875-1925* (West Midlands, England: Helion and Company, 2013), 350.

[22] Nikolas Gardner and Daniel Todman, "Was Cavalry in World War I an Antiquated Combat Arm?" In *History in Dispute, Volume 9, World War I, Second Series*, ed. Denis Showalter, (Detroit: St. James Press, 2002), 68-69.

ignored the obvious impact of these technologies upon their own forces. Both the British and the French developed their respective doctrines in anticipation of cavalry on cavalry clashes; shock offensives characterized by coordinated charges, sabers drawn.[23]

German doctrine more fully embraced indirect cavalry methods, such as flanking movements and reconnaissance, but the legacy of the Teutonic Knight no doubt inspired the Prussian cavalryman otherwise. He was purportedly indifferent to the indirect uses of cavalry, especially reconnaissance, and his training regimen consequently reflected this. This is demonstrated by the fact that Germany trained for shock offensives as if the *arme blanche* was still the decisive arm of war.[24]

Cavalry would not be decisive in the Great War. Nonetheless, the cavalryman and his horse did see combat, experienced some success, and not a little failure. By way of example, at the very onset of the war, German cavalry suffered mightily as they attempted to take several small Belgian villages in early August 1914. The entrenched Belgian defenders released overwhelming machine gun and artillery fire, dropping both horses and men en masse.[25] From the perspective of the defenders this success must have been awe inspiring. A few weeks later, German soldiers successfully repulsed a French cavalry attack with similar decisiveness. In this event, the French cavalry mounted a counterattack/rear guard action covering the general French retreat. The Attackers met a similar fate in the sights of well-positioned German riflemen. As one participant later described:

> A vast mass of horsemen emerged from both sides of the little wood and, uniting in front of it, rushed towards us (and) approached our line in a mad

[23] David R. Dorondo, *Riders of the Apocalypse: German Cavalry and Modern Warfare, 1870-1945* (Annapolis: Naval Institute Press, 2012), Kindle edition, locations 948-949.

[24] Gardner and Todman, 68-69.

[25] Dorondo, Kindle locations 1022-1028.

> gallop. (At) One hundred and thirty (yards) an overwhelming hail of bullets met the attacking party and scarcely a bullet missed the lump of humanity and beasts. Hundreds were laid low every second. Scarcely a hundred yards in front of us lay more than six hundred men and horses, on top of each other, beside each other, apart, in every imaginable position.[26]

An archaic cavalry doctrine met modern technology unsuccessfully. British offensives fared no better in the early-going, but both French and British cavalry successfully implemented delaying actions that allowed their respective armies to retreat westward more or less intact.[27] For this, only a rapid moving, highly maneuverable force could do the job. In 1914, only the horse fit this bill.

Ultimately, the opportunity for cavalry action on the western front came to an end. Static warfare bristling with modern weaponry, coupled with an extremely dense force-to-space ratio, meant that maneuver warfare of all types ground to a halt.[28] Inexplicably, this did not deter the uninitiated American Expeditionary Force from attempting a traditional mounted charge four years later as part of the 1918 St. Mihiel Offensive. The attack was predictably short-lived as the Americans suffered numerous casualties and quickly withdrew.[29]

The eastern front provided better conditions for traditional cavalry action. The force-to-space ratio was much lower, and there was suitable geography for large cavalry maneuver.[30] Some interesting battles did take place in the east, including the largest cavalry engagement of the entire war. In August 1914, Russian and Austrian cavalry met near Jaroslawice in eastern Galicia. This was a traditional cavalry battle, complete with

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[26] Anonymous, *A German Deserter's War Experience*, trans. Julius Koettgen (New York: B. W. Huebsch, 1917), 54-55.

[27] Dorondo, Kindle locations 1053-1064.

[28] Ibid., Kindle locations 936-941.

[29] Mark Ethan Grotelueschen, *The AEF Way of War: The American Army and Combat in World War I* (New York: Cambridge University Press, 2007), 117-118.

[30] Gardner and Todman, 67.

charges, sabers and lances, and the fight lasted for most of an entire day. In the end, the Russians could claim a tactical victory. They lost only 200 men compared to Austria-Hungary's 1000, but historians claim that the battle did not result in any long-term strategic impact for either belligerent.[31]

Perhaps the only truly impactful use of traditional cavalry on either major front was at the Battle of Tannenberg in late August 1914. There, German cavalry played a fairly important role in defeating the Russian Second Army.[32] Cavalry units also saw action in other theatres, including the Middle East and Mesopotamia, where machine guns were less prolific and there was more room for a mounted unit to move about. For the most part, however, cavalry was not a determining factor in the Great War. Almost every belligerent eventually dismounted most of his cavalry and either placed the men in the trenches with a rifle, on police duty in occupied territories, or tending artillery and supply horses behind the lines. Cavalry horses, too, did their bit by pulling light cargo and other transport.[33]

It would seem, then, that the horse was not important in mounted warfare. Perhaps not in effect, but the hope that cavalry would see its day never died altogether. Because of this, the arm still affected war planning and resource distribution. In December 1916, just over two years into the war, Mildred Aldrich described the large herds of cavalry horses kept near her home west of the Marne, just in case. A French cavalry officer had told her, "…that almost all the cavalry had been dismounted to do infantry work in the trenches, but (kept) their horses in the rear… (with nearly) four hundred horses along the hilltop,

[31] Prit Buttar, *Collision of Empires: The War on the Eastern Front in 1914* (Great Britain: Osprey Publishing Limited, 2014), Kindle edition, locations 209-210.

[32] Dorondo, Kindle location, 1295.

[33] Ibid., Kindle locations, 1118-1123.

and over fifteen thousand along the valley."[34] That is a lot of horse for hope, and the logistics to support them would have been immense.

And horses paid the price of war right alongside humans. Popular history seldom addresses the vast numbers of animals that suffered wounds or died in action, but suffer, they did. The first months of the war were the worst. The casualty rate during this period was at around 20 percent. This abnormally percentage resulted directly from the fluid character of the war and the steep learning curve required to face modern armament.[35]

Many horse casualties were secondary to combat in that they were not the intended targets. Artillery fire destroyed convoys, and random explosions killed soldiers and animals alike. Sometimes well-aimed counter-battery fire took out artillery horses, until their handlers learned to keep them far away from the guns.[36] Sometimes, though, horses were the intended targets. Soldiers shot cavalry mounts as surely as they did the riders. It was thought, too, that the Germans adopted a policy of intentionally targeting both supply and artillery horses.[37] Horses were so important to operational mobility that eliminating an opponent's horses could conceivably cripple his ability to fight. Frederic Coleman, an American assigned as an observer to the British Expeditionary Force in France and Flanders, witnessed this first-hand. He noted that a gun battery's horses, though constantly moved from place, were repeatedly victims of concentrated artillery fire. A hidden observer must have been calling in new coordinates every time handlers moved the animals. Coleman also witnessed the fate suffered by a misidentified herd of

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[34] Mildred Aldrich, *On the Edge of the War Zone: From the Battle of the Marne to the Entrance of the Stars and Stripes* (Boston: Small, Maynard and Company, 1917), 219-220.

[35] Graham Winton, *Theirs Not To Reason Why: Horsing the British Army 1875-1925* (West Midlands, England: Helion and Company, 2013), 396.

[36] Herbert Sulzbach, *With the German Guns: Four Years on the Western Front, 1914-1918*, trans. Richard Thonger (Hamden, Connecticut: Archon Books, 1981), 48.

[37] Winton, 339.

cattle grazing on a distant hill.[38] Perhaps the most striking example of this practice took place at Verdun in 1916. On one single day, long-range artillery fire took out over 7,000 horses. Single shells often killed 50-100 at a time.[39]

Gas masks for man and horse demonstrated by American soldier, circa 1917-18 [40]

Chemical warfare agents took their toll on the horse as well. Although the number of horses killed or badly injured by gas attacks is uncertain, all belligerents worked quickly to develop gas masks for the animals. If the warhorse came to a halt, then the war effort did as well. On the western front, the Allies distributed enough masks to protect about one-third of the animals present, roughly enough to protect those closest to the

[38] Frederic Coleman, *From Mons to Ypres with General French: A Personal Narrative* (New York: Dodd, Mead and Company, 1916), 171-175.

[39] Dorondo, Kindle locations 1187-1189.

[40] National Archives Catalog, "Gas Masks for Man and Horse Demonstrated by American Soldier, circa 1917-18," https://catalog.archives.gov/id/516483 (accessed October 25, 2017).

action.[41] Diseases like glanders and mange further weakened the herds, and like humans, the greater the density of animals, the more likely it was that they would fall ill. Insect-borne disease in other theatres, such as East Africa, took an inordinately large toll on the warhorse. In 1916 alone, tsetse fly disease killed over 10,000 horses and donkeys.[42] Further, horses and mules died during transport from the United States, sunk by U-boats and gunships just like any other war material, resulting in the death of 14,000 animals killed at sea.[43]

We tend to use casualty statistics to quantify the negative impact of war. This is our way of saying 'it was really bad.' Statistics might also, then, demonstrate the value of assets supplementary to the human soldier. If this is true, then surely horse casualty statistics can illustrate the importance of the horse during the Great War. Complete horse casualty statistics are difficult to come by (this can be said for military dead too), but solid examples include the British War Office's estimation that the British Army suffered 225,856 horses dead by October, 1917.[44] Extrapolated data indicates that approximately 380,000 British soldiers died in France during the same time period. Nearly 60% as many British horses died in France, then, as British soldiers.[45]

Other countries suffered similarly high casualties, if not higher. Austria-Hungary lost approximately 320,000 horses killed by the end of 1915,[46] and the French lost 376,201 horses killed by the end of October, 1917.[47] Altogether, according to one source,

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[41] Singleton, 199.

[42] Steven Johnston, "Animals in War: Commemoration, Patriotism, Death," *Political Research Quarterly* 65, no. 2 (June 2012): 365.

[43] The War Office, 399.

[44] Ibid., 397.

[45] Ibid., 241-243.

[46] Josef Brauner, et al., ed., *Austria-Hungary's Last War, 1914-1918, Volume 4 (1916), The Events of January through July*, trans. Stan Hanna (Vienna: Publisher of Military Science Releases, 1933), 134.

[47] The War Office, 397.

a total of 8,000,000 horses perished during the Great War,[48] compared to an estimated 10,000,000 military deaths.[49] Using these figures the ratio narrows drastically. It is certainly not fair, nor is it the intent, to compare the value of human lives with the lives of horses, mules, donkeys and other hoofed beasts. It is statistically clear, however, that the beast ranks a close second in terms of strategic, operational, and tactical significance.

If further justification is required, then perhaps a better understanding of the logistics required to support the horse itself will better validate this claim. As previously discussed, the horse was essential to moving the arms and supplies needed to sustain the war effort. The horse required supplies and support too, though, and this was significant. Moving military matériel requires enormous resources, and minimizing the transport of unnecessary goods is always a priority. Items that took up the most space and weighed the most tonnage would have logically received the most scrutiny. It turns out that the horse required more than anything else. For example, a horse required about ten times as much food as a soldier, so just feeding the horse required massive amounts of hay and oats. In fact, the Allies shipped a greater tonnage of hay and oats to the western front than the sum of all ammunition of all types.[50] This is remarkable considering the historic proportions of lead and steel expended throughout the four years of hostility.

The amount of horse feed required for the German 1st Army during the August 1914 offensive provides a striking numerical example. Von Kluck's army transported 2,000,000 pounds of fodder, per day, to support his 84,000 horses.[51] This works out to

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[48] Steven Johnston, "Animals in War: Commemoration, Patriotism, Death," *Political Research Quarterly* 65, no. 2 (June 2012): 363.

[49] David Stevenson, *Cataclysm: The First World War as Political Tragedy* (New York: Basic Books, 2004), xvii.

[50] Singleton, 196.

[51] Hew Strachan, *The First World War* (New York: Penguin Books, 2003), Kindle edition, locations 936-940.

about 23 pounds of food per horse, per day. This agrees nicely with Mildred Aldrich's observation that a young French cavalry officer carried twenty pounds of oats in his saddlebag in addition to whatever food and munitions he needed for the day.[52] Water was even more critical to keeping the horse on the job. Statistics are more difficult to pin down since logisticians did not weigh and measure water in the way that they did food, but the preparation for the 1916 Battle of the Somme, provides a fine example. For this, the British alone utilized three hundred tankers to move water to hundreds of watering points all along the line.[53]

A number of other equine-related items were essential to the war effort, and each required significant resources to purchase and transport. Sometimes even special skills were required. For example, the British transported 62,715,000 horse shoes during the course of the war.[54] Out of necessity, they also established four farrier schools in which to train thousands of men the skills needed to care for the animal's hooves.[55] Leather goods including harnesses, bridles, and saddles were indispensable as well, and locating the great quantities needed was a global effort. Britain imported these items from the United States, South America, India and other points. In turn, they frequently provided this gear to their allies, France and Russia.[56]

Veterinary care was as critical to herd health as medical care was to the soldiery. To provide this, the British fielded sixteen veterinary evacuation stations and nearly thirty veterinary hospitals, each capable of treating 1,250 to 2,000 animals each. They also

[52] Aldrich, *Edge of the War Zone*, 247.
[53] Dorondo, Kindle locations 1149-1151.
[54] The War Office, 781.
[55] Ibid., 864.
[56] Ibid., 870.

fielded four, 1,000-animal camel hospitals.[57] When the American Expeditionary Force deployed, they brought with them twenty-one veterinary hospitals of similar size.[58] Clearly, it was just as necessary to keep the horse in the fight as it was the man, as these numbers bear out.

Wounded horses in a horse ambulance at No. 23 Veterinary Hospital in the French artillery barracks at St. Omer, 14 June 1918. The horse box revolves and this removes the necessity of backing the horses out or unloading [59]

Many new technologies, such as tanks, airplanes, rapid-fire artillery, and motorized vehicles, played an important role in the war effort. As a consequence, it is quite natural to imagine a scene replete with Industrial Age might when reflecting upon this war. But mechanized haulage never came close to displacing the horse. To be sure, these mechanized resources improved and increased over the course of the war, but the numbers of horses barely diminished. All the way up to the armistice in November 1918, the horse was essential in almost every aspect of the war effort. To illustrate, Britain still had nearly three-quarters of a million horses and mules deployed in all theatres, not to

[57] The War Office, 864.

[58] A. von Schrader, and Paul Fortier Jones, eds. *Harper's Pictorial Library of the World War, Volume VII: The Armies of Mercy, The Vast Relief Work in all the Nations* (New York: Harper & Brothers Publishers, 1920), 226.

[59] Imperial War Museums, "Wounded Horses in a Horse Ambulance at No. 23 Veterinary Hospital in the French Artillery Barracks at St. Omer, 14 June 1918," Picture Q 9006, http://www.iwm.org.uk/collections/item/object/205244793 (accessed November 25, 2017).

mention the hundreds of thousands of animals that the other major powers fielded.[60] It is perhaps understandable, though, that popular history overlooks the horse. In the eyes of many, it was merely equipment. Yet, all participants in this Great War used the horse every single day to move supplies, ammunition, armament, and victuals to the front, and casualties to the rear. Even cavalry units saw some measure of combat action in this, the last war with significant use of this combat arm. Almost an anachronism, the horse filled a gap between technologies and traversed landscape only this austere beast could conquer. The horse was militarily indispensable. Without this animal and its cohorts, waging modern war impossible and defeat guaranteed.

[60] The War Office, 862.

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